

ABSTRACT OF THE DISCLOSURE

A container to be positioned in a ring-down optical cavity for containing a sample includes an outer surface having opposing first and second outer faces and an inner surface forming a void for containing the sample and having opposing first and second inner faces. The container may include a first portion forming the first outer face having a second index of refraction and a second portion forming the second outer face having a third index of refraction. The container may be placed in an optical cavity including a medium. The first and second outer faces of the outer surface and the first and second inner faces of the inner surface are oriented so that the cavity-to-container interfaces and the container-to-sample interfaces of the container transmit and receive a light beam at an incidence angle approximately equal to the Brewster's angle of the respective interface.